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10/069,078	02/21/2002	Young Tae Son	108256-00016	9132

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EXAMINER

LAYNO, CARL HERNANDZ

ART UNIT PAPER NUMBER

3762

DATE MAILED: 09/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/069,078

Applicant(s)

SON, YOUNG TAE

Examiner

Carl H. Layno  
Carl H. Layno

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,6,9,12,13 and 15-19 is/are rejected.
- 7) ☒ Claim(s) 3,4,7,8,10,11 and 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/21/02.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. Acknowledgment is made of applicant's preliminary amendment which was received by the Office on February 21, 2002.

2. Claims 1-19 are active and pending.

#### ***Priority***

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file. This application is a 371 of PCT application PCT/KR01/00455, filed March 22, 2001.

#### ***Information Disclosure Statement***

4. Acknowledgment is made of applicant's Information Disclosure Statement (PTO-1449) which was received by the Office on February 21, 2002.

#### ***Drawings***

5. The drawings are objected to because pages 1-6 of the drawings (Figs. 1-7) contain references to "WO 01/97904" and "PCT/KR01/00455" which should be deleted.. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as

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“amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

6. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Specifically, the Applicant should refrain from using the terminology “The present invention” (line 1 of the Abstract).

### ***Claim Objections***

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7. Claims 11 and 12 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Specifically, as written, claim 11 is a method claim which depends from apparatus claim 7. This appears to be a typographical error. To overcome this objection, the Examiner recommends changing the dependency of claim 11 to depend from claim 9.

Claim 12 is also objected to since it depends from objected claim 11.

#### ***Claim Rejections - 35 USC § 112***

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 6, 12, 13, and 16-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regard to claim 6, there is no antecedent basis for the term "said transmitter" (line 1). To overcome this rejection, the Examiner recommends changing this to the words "said transmitting means".

In regard to claim 12, there is no antecedent basis for the method step: "said controlling step" (lines 1-2).

In regard to claim 13, there is no antecedent basis for the term "the predetermined heart rate reference". To overcome this rejection, the Examiner suggests changing this using the

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words “a predetermined heart rate reference”. In addition, the claim is indefinite in that the word “ration” (line 3) appears inappropriate. This appears to be a typographical error, therefore, the Examiner also suggests rewriting this as the word “ratio”.

In regard to claim 16, the term “the conducting means” (line 7) has no antecedent basis. To overcome this rejection, the Examiner suggests changing this to “a conducting means”.

Claims 17-19 are also rejected since they depend from rejected claim 16.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1, 2, 5, 6, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Petrofsky et al ‘830.

The Petrofsky et al ‘830 patent discloses an exercise apparatus (Figs.1 and 2) comprising a stimulator **50** (Fig.1) for generating electrical pulses and electrodes **15a,15b,15c**, which perform the function of applicant’s “transmitting means” for supplying the electrical pulses to person doing exercise on the apparatus. The apparatus of Petrofsky et al produces low frequency signals in the range from 55Hz to 65Hz (col.5, lines 19-20 – See Fig.8).

In regard to claim 5, the electrodes **15a,15b,15c** are attached to the leg of the subject by hypoallergenic tape or elastic bandages (col.4, lines 54-55), which perform the function of applicant’s claimed “attachment means”.

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12. Claims 1, 2, 6, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Ostrow '134 or Fuxne et al '178.

Both the Ostrow '134 and Fuxne et al '178 patents describe portable devices that apply electrical energy pulses to a wearer during exercise therapy for muscle and bone rehabilitation, respectively.

The Ostrow '134 device (Fig. 7) comprises a pulse signal generator **55** connected to a plurality of electrode pads **32** for transmitting low frequency signals (1-200 Hz – col.9, lines 29-30) to the wearer (Fig. 1). Despite its bulkiness, the pads of Ostrow permit its patients to perform “active exercise” while wearing it (col.10, lines 65-67).

The Fuxne et al '178 patent also discloses a device (Fig. 1) having a pulse generator/oscillator **30** connected to electrode pads **60A, 60B** for transmitting low frequency signals (0.1-100 Hz) (col.3, lines 25-26) to a patient. Its small size and light weight enable the device of Fuxne et al to be carried everywhere and for doing “all kinds of physical exercises” (col.3, lines 31-34). The stimulation therapy is to be combined with physical exercise therapy to make treatment more effective (col.3, lines 38-41).

13. Claims 15, 18, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Trulaske et al '504.

The Trulaske et al '504 patent discloses a treadmill exercise device (Fig. 1) including circuits (Fig. 4A) for measuring the user's heart rate **82** and a system controller **30** for comparing the user's measured heart rate with a scheduled target heart rate (Fig. 4B – see also decision box

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**122** of Fig. 5A) from which is derived control information for incrementing **148** (Fig. 5C) or decrementing the speed of the exercise device **160** (Fig. 5C). Alternatively, the grade, or slope, of the treadmill may be controlled based upon the heart rate comparison (see boxes **152,156** of Fig. 5C).

In regard to claim 19, if the target heart rate exceeds the target heart rate by more than 20 beats per minute, an alarm is activated **131** (Fig. 5B) and the device begins a shutdown procedure. The alarm would inherently be either audible or visual.

14. Claims 15 and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Hall-Tipping '069.

The Hall-Tipping '069 patent describes a combination exercise device (bicycle)/video game (Fig. 1) including a measuring means (i.e. sensor) for measuring a person's heart rate **20** and a processor **14** which compares the measured heart rate with a target heart rate (THR) and controls the play of the device depending upon this comparison. Specifically, the resistance/speed of the bicycle portion of the game is either increased or decreased depending upon the difficulty of play of the video game and the detected heart rate of the player (col. 5, line 25 thru col. 6, line 50). The sensor **20** may be an earlobe clip or chest-mounted heart rate sensor (col. 4, lines 5-7).

In regard to claim 17, the user is prompted to enter his/her maximum target heart rate reference THR[wo2] during a warm up phase of the device (col. 5, lines 29-35).

In regard to claim 18, exercising speed is affected (specifically, bicycle resistance) by processor **14** (col. 4, lines 47-49).



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In regard to claim 19, a warning is sounded or displayed if the user's heart rate exceeds a maximum warm-up heart rate (col.5, lines 55-60).

***Allowable Subject Matter***

15. Claim 16 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

16. Claims 3, 4, 7, 8, 10, 11, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

17. As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a). **Corrected formal drawings** are now required.

***Conclusion***

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

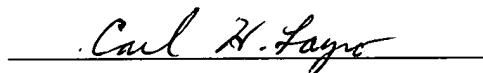
The McLeod et al '413 patent is cited for its pertinent low frequency generator and electrode pads. Unlike applicant's claimed device, however, that of McLeod et al '413 does not appear to be used in conjunction with exercise.

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19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carl H. Layno whose telephone number is (703) 308-3694. The examiner can normally be reached on Monday thru Thursday from 9 AM to 6 PM and every other Friday between 9AM and 5PM. A voice mail or E-mail message ([carl.layno@uspto.gov](mailto:carl.layno@uspto.gov)) may be left if desired.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Sykes, can be reached on (703) 308-5181. All faxed correspondence should be sent to the Office's new Official FAX number (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Legal Instruments Examiner (LIE) Brenda Webb whose telephone number is (703) 305-7520.

A handwritten signature in cursive script, reading "Carl H. Layno", is written over a horizontal line.

CARL LAYNO  
PRIMARY EXAMINER

CHL

9/26/2004